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| WORKU, NEGUSSIE | |
| **ART UNIT** | **PAPER NUMBER** |
| 2626 | |

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/055,003 | TAKANO, GAKU | |
| | Examiner | Art Unit | |
| | Negussie Worku | 2626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *25 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Atkins et al. (USPAP 2002/0172431).

With respect to claim 1, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1) comprising: an image input module, (input means 120 of fig 1) which inputs image signals having different sampling rates (digital information to be generated by the inputting means 120 of fig 1, col.2, paragraph 0027, lines 1-5); a filter processing module (140 of fig 1, col.2, paragraph 0029, lines 5-10) which, based on a predetermined processing flow, carries out filter processing by a predetermined filter factor on the image signals which are inputted by said image input module (140 of fig 1, includes an input for receiving an input digital image 144, col.2, paragraph 0029, lines 1-5); a filter factor setting module (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph

0039, lines 1-5), at which a plurality of filter factors (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]) which are used in said filter processing module (140 of fig 1) are set; and a filter factor selecting module (440 of fig 4, col.4, paragraph 0050, lines 1-5) which selects, from among the plurality of filter factors at said filter factor setting module, (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph 0039, lines 1-5), at which a plurality of filter factors (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]), an appropriate filter factor (plurality of filters, F_1 to F-N , plurality of sets of filter coefficients]) in accordance with the sampling rates of the image signals which are inputted by said image input module (140 of fig 1), and a processing flow at said filter processing module, (114 of fig 1), and supplies them to said filter processing module.

With respect to claim 2, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter processing by the predetermined filter factor (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]) at said filter processing module (processor 114 of fig 1) is linear filter processing, (440 of fig 4, col.4, paragraph 0050, lines 1-5), and said filter factor selecting module selects, as the appropriate filter factor, [plurality of sets of filter coefficients]), a filter factor to switch a filter frequency characteristic in the linear filter processing by said filter processing module (140 of fig 1).

With respect to claim 3, Atkins discloses an image processing device (a method

and a system for processing digital images as shown in fig 1), wherein a filter factor to switch the filter frequency characteristic which is selected by said filter factor selecting module (filter selecting 440 of fig 4, (440 of fig 4, col.4, paragraph 0050, lines 1-5), is a filter factor to switch a cutoff frequency (plurality of sets of filter coefficients, (as shown in fig 4).

With respect to claim 4, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), comprising: an image input module (430 of fig 4, includes first input means, col.4, paragraph 0051, lines 15-20) which inputs a first image signal having a predetermined sampling rate (to receive sharpness measure) and a second image signal having a sampling rate which is higher than the sampling rate of the first image signal, (col.4, paragraph 0051, lines 1-6); a filter processing module (140 of fig 1, col.2, paragraph 0029, lines 5-10) which, based on a predetermined processing flow, carries out linear filter processing by a predetermined filter factor on the first and second image signals (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]) which are inputted by said image input module (430 of fig 4, includes input module); a filter factor setting module (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph 0039, lines 1-5), at which a plurality of filter factors (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]) at which a plurality of filter factors which are used in said filter processing module are set; and a filter factor selecting module (440 of fig 4, col.4, paragraph 0050, lines 1-5) which selects, from among the plurality of filter factors at said filter factor

setting module, as a filter factor in linear filter processing by said filter processing module, (140 of fig 1, col.2, paragraph 0029, lines 5-10) an appropriate filter factor in accordance with the sampling rates of the first and second image signals (430 of fig 4, includes first input means, col.4, paragraph 0051, lines 15-20, second window the second inputting means) which are inputted by said image input module and a processing flow at said filter processing module, 140 of fig 1) and supplies them to said filter processing module, col.2, paragraph 0029, lines 5-10.

With respect to claim 5, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein a filter factor to switch the filter frequency characteristic which is selected by said filter factor selecting module (filter selecting 440 of fig 4, (440 of fig 4, col.4, paragraph 0050, lines 1-5), is a filter factor to switch a cutoff frequency (plurality of sets of filter coefficients, (as shown in fig 4).

With respect to claim 6, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein a filter factor in the linear filter processing which is selected by said filter factor selecting module is a filter selecting module (filter selecting 440 of fig 4, (440 of fig 4, col.4, paragraph 0050, lines 1-5), is a filter factor to make a cutoff frequency for the first image signal lower than a cutoff frequency for the second image signal, (plurality of sets of filter coefficients, (as shown in fig 4).

With respect to claim 7, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter factor in the linear filter processing (filter processing 340 of fig 4) which is selected by said filter factor selecting module (filter selector 440 of fig 4) is a filter factor to make a cutoff frequency for said first image signal lower than a frequency in which a main frequency component of an inputted image signal is subtracted from twice a vector which expresses a Nyquist frequency at a time of processing the first image signal, and to make a cutoff frequency for the second image signal lower than the main frequency of the inputted image signal, (col.4, paragraph 0050-0051).

With respect to claim 8, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter factor in the linear filter processing which is selected by said filter factor selecting module (filter selector 44 of fig 4) is a filter factor to make a cutoff frequency for the first image signal lower than a frequency in which a number of screen lines of a manuscript which presents the first image signal is subtracted from twice a vector which expresses a Nyquist frequency at a time of processing the first image signal, and to make a cutoff frequency for the second image signal lower than the number of screen lines of the manuscript, (col.4, paragraph 0050-0051).

With respect to claim 9, Atkins discloses an image processing device (a method

and a system for processing digital images as shown in fig 1) comprising: image input means for inputting image signals having different sampling rates, (430 of fig 4, includes first input means, col.4, paragraph 0051, lines 15-20); filter processing means (140 of fig 1, col.2, paragraph 0029, lines 5-10) for carrying out, based on a predetermined processing flow, a filter processing by a predetermined filter factor on the image signals which are inputted by said image input means (230 of fig 4); filter factor setting means (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph 0039, lines 1-5), at which a plurality of filter factors (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]) at which a plurality of filter factors which are used in said filter processing means are set; and filter factor selecting means (440 of fig 4) for selecting, from among a plurality of filter factors at said filter factor setting means, filter selection mechanism 230 of fig 3) an appropriate filter factor in accordance with the sampling rate of the image signal which is inputted by said image input means (430 of fig 3), and a processing flow at said filter processing means, (114 of fig 1) and for supplying them to said filter processing means (114 of fig 1).

With respect to claim 10, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter processing by the predetermined filter factor (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]) at said filter processing module (processor 114 of fig 1) is linear filter processing, (440 of fig 4, col.4, paragraph 0050, lines 1-5), and said filter factor selecting means selects, as the appropriate filter factor, [plurality of sets of filter

coefficients]), a filter factor to switch a filter frequency characteristic in the linear filter processing by said filter processing means (140 of fig 1).

With respect to claim 11, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein a filter factor to switch the filter frequency characteristic which is selected by said filter factor selecting module (filter selecting 440 of fig 4, (440 of fig 4, col.4, paragraph 0050, lines 1-5), is a filter factor to switch a cutoff frequency (plurality of sets of filter coefficients, as shown in fig 4).

With respect to claim 12, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), comprising: an image input module (430 of fig 4, includes first input means, col.4, paragraph 0051, lines 15-20) which inputs a first image signal having a predetermined sampling rate (to receive sharpness measure) and a second image signal having a sampling rate which is higher than the sampling rate of the first image signal, (col.4, paragraph 0051, lines 1-6);
a filter processing module (140 of fig 1, col.2, paragraph 0029, lines 5-10) which, based on a predetermined processing flow, carries out linear filter processing by a predetermined filter factor on the first and second image signals (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]) which are inputted by said image input module (430 of fig 4, includes input module); a filter factor setting module (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph 0039, lines 1-5), at which a plurality of filter factors (plurality of filters, F_1 to F-N [plurality of sets of filter

coefficients]) at which a plurality of filter factors which are used in said filter processing module are set; and a filter factor selecting module (440 of fig 4, col.4, paragraph 0050, lines 1-5) which selects, from among the plurality of filter factors at said filter factor setting module, as a filter factor in linear filter processing by said filter processing module, (140 of fig 1, col.2, paragraph 0029, lines 5-10) an appropriate filter factor in accordance with the sampling rates of the first and second image signals (430 of fig 4, includes first input means, col.4, paragraph 0051, lines 15-20, second window the second inputting means) which are inputted by said image input module and a processing flow at said filter processing module, 140 of fig 1) and supplies them to said filter processing module, col.2, paragraph 0029, lines 5-10.

With respect to claim 13, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein a filter factor to switch the filter frequency characteristic which is selected by said filter factor selecting module (filter selecting 440 of fig 4, (440 of fig 4, col.4, paragraph 0050, lines 1-5), is a filter factor to switch a cutoff frequency (plurality of sets of filter coefficients, (as shown in fig 4).

With respect to claim 14, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein a filter factor in the linear filter processing which is selected by said filter factor selecting means is a filter selecting means (filter selecting 440 of fig 4, (440 of fig 4, col.4, paragraph 0050,

lines 1-5), is a filter factor to make a cutoff frequency for the first image signal lower than a cutoff frequency for the second image signal, (plurality of sets of filter coefficients, (as shown in fig 4).

With respect to claim 15, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter factor in the linear filter processing (filter processing 340 of fig 4) which is selected by said filter factor selecting means (filter selector 440 of fig 4) is a filter factor to make a cutoff frequency for said first image signal lower than a frequency in which a main frequency component of an inputted image signal is subtracted from twice a vector which expresses a Nyquist frequency at a time of processing the first image signal, and to make a cutoff frequency for the second image signal lower than the main frequency of the inputted image signal, (col.4, paragraph 0050-0051).

With respect to claim 16, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter factor in the linear filter processing which is selected by said filter factor selecting module (filter selector 44 of fig 4) is a filter factor to make a cutoff frequency for the first image signal lower than a frequency in which a number of screen lines of a manuscript which presents the first image signal is subtracted from twice a vector which expresses a Nyquist frequency at a time of processing the first image signal, and to make a cutoff frequency for the second image signal lower than the number of screen lines of the

manuscript, (col.4, paragraph 0050-0051).

With respect to claim 17, Atkins discloses a method of image processing an image processing device (a method and a system for processing digital images as shown in fig 1) comprising: inputting image signal, (input means 120 of fig 1) which inputs image signals having different sampling rates (digital information to be generated by the inputting means 120 of fig 1, col.2, paragraph 0027, lines 1-5); carrying out, based on a predetermined processing flow a filter processing (140 of fig 1, col.2, paragraph 0029, lines 5-10) which, based on a predetermined processing flow, carries out filter processing by a predetermined filter factor on the image signals which are inputted by said image input module (140 of fig 1, includes an input for receiving an input digital image 144, col.2, paragraph 0029, lines 1-5); setting a plurality of filter factor (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph 0039, lines 1-5, (plurality of filters, F_1 to F-N [ of filter coefficients. which are used in said filter processing 140 of fig 1); selecting from among plurality (440 of fig 4, col.4, paragraph 0050, lines 1-5) which selects, from among the plurality of filter factors at said filter factor setting module, (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph 0039, lines 1-5), at which a plurality of filter factors (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]), an appropriate filter factor (plurality of filters, F_1 to F-N , plurality of sets of filter coefficients]) in accordance with the sampling rates of the image signals which are inputted by said image input

module (140 of fig 1), and a processing flow at said filter processing module, (114 of fig 1), and supplies them to said filter processing.

With respect to claim 18, Atkins discloses an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter processing by the predetermined filter factor (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]) at said filter processing (processor 114 of fig 1), and a filter factor [plurality of sets of filter coefficients]), to switch a filter frequency characteristic in said linear filter processing is selected as the appropriate filter factor in said filter processing, (140 of fig 1).

With respect to claim 19, Atkins discloses a method for controlling an image processing device (a method and a system for processing digital images as shown in fig 1), wherein a filter factor to switch the filter frequency characteristic which is selected by said filter factor selecting module (filter selecting 440 of fig 4, (440 of fig 4, col.4, paragraph 0050, lines 1-5), is a filter factor to switch a cutoff frequency (plurality of sets of filter coefficients, (as shown in fig 4).

With respect to claim 20, Atkins discloses a method of image processing an image processing device (a method and a system for processing digital images as shown in fig 1) comprising: inputting a first image signal image signal, (input means 120 of fig 1) having different sampling rates (digital information to be generated by the

inputting means 120 of fig 1, col.2, paragraph 0027, lines 1-5), and second image signals having a sampling rate which is higher than the sampling rate of the first image signal; carrying out, based on a predetermined processing flow a linear filter processing by a predetermined filter factor on the first and second image signals (140 of fig 1, col.2, paragraph 0029, lines 5-10) which, based on a predetermined processing flow, carries out filter processing by a predetermined filter factor on the image signals which are inputted by said image input module (140 of fig 1, includes an input for receiving an input digital image 144, col.2, paragraph 0029, lines 1-5); setting a plurality of filter factor (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph 0039, lines 1-5, (plurality of filters, F_1 to F-N [ of filter coefficients. which are used in said filter processing 140 of fig 1); selecting from among plurality (440 of fig 4, col.4, paragraph 0050, lines 1-5) which selects, from among the plurality of filter factors at said filter factor setting module, (filter selection mechanism 230 can select a filter [a filter coefficients], col.3, paragraph 0039, lines 1-5), at which a plurality of filter factors (plurality of filters, F_1 to F-N [plurality of sets of filter coefficients]), an appropriate filter factor (plurality of filters, F_1 to F-N , plurality of sets of filter coefficients]) in accordance with the sampling rates of the image signals which are inputted by said image input module (140 of fig 1), and a processing flow at said filter processing module, (114 of fig 1), and supplies them to said linear filter processing.

With respect to claim 21, Atkins discloses a method for controlling an image processing device (a method and a system for processing digital images as shown in fig

1), wherein a filter factor in said linear filter processing (filter selecting 440 of fig 4, col.4, paragraph 0050, lines 1-5), is a filter factor to switch a cutoff frequency (plurality of sets of filter coefficients, (as shown in fig 4).

With respect to claim 22, Atkins discloses a method for controlling an image processing device (a method and a system for processing digital images as shown in fig 1), wherein a filter factor in the linear filter processing which, is a filter factor to make a cutoff frequency for the first image signal lower than a cutoff frequency for the second image signal, (plurality of sets of filter coefficients, (filter selecting 440 of fig 4, col.4, paragraph 0050, lines 1-5).

With respect to claim 23, Atkins discloses a method of controlling an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter factor in the linear filter processing (filter processing 340 of fig 4) which is selected by said filter factor selecting module (filter selector 440 of fig 4) is a filter factor to make a cutoff frequency for said first image signal lower than a frequency in which a main frequency component of an inputted image signal is subtracted from twice a vector which expresses a Nyquist frequency at a time of processing the first image signal, and to make a cutoff frequency for the second image signal lower than the main frequency of the inputted image signal, (col.4, paragraph 0050-0051).

With respect to claim 24, Atkins discloses a method for controlling an image processing device (a method and a system for processing digital images as shown in fig 1), wherein the filter factor in the linear filter processing which is selected by said filter factor selecting module (filter selector 44 of fig 4) is a filter factor to make a cutoff frequency for the first image signal lower than a frequency in which a number of screen lines of a manuscript which presents the first image signal is subtracted from twice a vector which expresses a Nyquist frequency at a time of processing the first image signal, and to make a cutoff frequency for the second image signal lower than the number of screen lines of the manuscript, (col.4, paragraph 0050-0051).

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Negussie Worku whose telephone number is 571-272-7472. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on 571-272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER

Negussie Worku

10/07/05